

Sexual and Reproductive Health Knowledge, Attitudes and Practices as Determinants of Risky Sexual Behaviours among Undergraduates of Taraba State University, Jalingo, Nigeria

Dr Bako Ali Istifanus^{1*}, Tomen Egbe Agu¹, Bako Albert Ali¹ and John Obed Tiwah²

¹Department of Environmental Health, Faculty of Health Sciences, Taraba State University

²Department of Research & Statistics, Centre for Initiative and Development NGO, Taraba State, Nigeria

Abstract

Keywords

Sexual and Reproductive Health, Risky Sexual Behaviour, Attitudes and Practices, Undergraduate Students, Taraba State University

Risky Sexual Behaviour among Undergraduates remain a major Public Health concern because of its association with poor Sexual and Reproductive Health (SRH) outcomes. This study examined SRH knowledge, attitudes, and practices as determinants of risky sexual behaviours among undergraduates of Taraba State University. A descriptive cross-sectional survey research design was adopted. A sample size of 395 respondents was selected from Undergraduates of Taraba State University using a multistage sampling technique. Data were collected using a structured questionnaire designed based on the Knowledge, Attitude and Practice (KAP) scale. Pearson Product Moment Correlation and independent sample t-test were used to test the hypotheses at a 0.05 level of significance. The findings revealed that 56.5% of respondents had moderate SRH knowledge, positive SRH attitudes (56.2%) and moderate SRH practices (56.0%), while 43.8% engaged in moderate risky sexual behaviours, and 25.3% engaged in high-risk sexual behaviours. Statistical analysis revealed that SRH knowledge had a significant negative relationship with risky sexual behaviour ($r = -0.761, p < 0.05$). However, SRH attitudes ($r = 0.010, p > 0.05$) and practices ($r = 0.057, p > 0.05$) had no significant relationship with risky sexual behaviour. Gender also had no significant influence on risky sexual behaviour ($t = -0.024, p > 0.05$). The study concluded that improving SRH knowledge is essential for reducing risky sexual behaviours among undergraduates and recommended strengthening SRH education, improving access to youth-friendly health services, and implementing behavioural interventions to reduce risky sexual behaviours among university students.

1. Introduction

Sexual and reproductive health (SRH) is a fundamental component of public health, human rights, and sustainable development. It encompasses the physical, mental, emotional, and social well-being of individuals in matters relating to sexuality and reproduction, including the ability to make informed reproductive choices, exercise bodily autonomy, and access comprehensive sexual and reproductive healthcare services. Since the International Conference on Population and Development (ICPD) in Cairo in 1994, the global focus has shifted from population control to reproductive rights, gender equality, and person-centred healthcare (Starrs et al., 2018). Optimal SRH contributes to reductions in maternal mortality, sexually transmitted infections (STIs), and unintended pregnancies while improving educational attainment, economic productivity, and overall quality of life (Chou et al., 2022).

*Corresponding Author: Bako Ali Istifanus
Email Address: dralexaliyu@gmail.com

Young people aged 15–24 years are particularly vulnerable to poor SRH outcomes because adolescence and emerging adulthood involve rapid biological, psychological, and social transitions that often increase exposure to risky sexual behaviours. Inadequate comprehensive sexuality education and limited access to youth-friendly health services further heighten the risks of unintended pregnancy, HIV infection, other STIs, unsafe abortion, sexual violence, and related psychosocial consequences (Patton et al., 2016). Since health behaviours established during this period often persist into adulthood, promoting healthy sexual behaviours among young people remains a public health priority (Sawyer et al., 2018).

Despite global progress in reproductive health, SRH challenges among young people remain substantial. More than one million curable STIs are acquired daily worldwide, while adolescents and young adults continue to account for a disproportionate share of new HIV infections and unintended pregnancies (Rowley et al., 2019). Although adolescent fertility has declined globally, sub-Saharan Africa continues to record the highest adolescent birth rates due to persistent inequalities in access to reproductive health information, contraceptive services, education, and gender-responsive healthcare (Chou et al., 2022). Young people also face barriers such as inadequate knowledge, misconceptions, cultural and religious taboos, stigma, financial constraints, and limited youth-friendly services, all of which contribute to risky sexual behaviours and poor reproductive health outcomes (Kågesten et al., 2021).

Sub-Saharan Africa bears a disproportionate burden of HIV infection, adolescent pregnancy, unsafe abortion, and maternal mortality among young people despite representing a relatively small proportion of the world's population (Dellar, Dlamini, & Karim, 2015). These outcomes are shaped by poverty, gender inequality, harmful sociocultural norms, limited educational opportunities, and inadequate access to sexual and reproductive health services (Kågesten et al., 2021). Young women remain particularly vulnerable to HIV infection due to biological susceptibility, unequal gender relations, transactional sexual relationships, and limited power to negotiate condom use (Dellar et al., 2015).

Nigeria provides an important context for studying SRH because it has one of the largest youth populations globally (National Population Commission & ICF, 2019). Although awareness of HIV/AIDS and modern contraceptive methods has increased, comprehensive knowledge of fertility, emergency contraception, STIs other than HIV, and reproductive rights remains inadequate. Sexual debut commonly occurs during adolescence, while contraceptive use among unmarried sexually active young people remains low, contributing to high rates of unintended pregnancy, unsafe abortion, adolescent childbearing, and sexually transmitted infections (National Population Commission & ICF, 2019). These outcomes are influenced by inadequate sexuality education, cultural and religious norms, gender inequality, misconceptions about contraception, and fear of stigma.

The university environment further influences students' sexual and reproductive health behaviours. Increased independence, peer influence, intimate relationships, alcohol consumption, and substance use may encourage behaviours such as inconsistent condom use, multiple sexual partnerships, transactional sex, and sex under the influence of alcohol or psychoactive substances, thereby increasing the risks of HIV infection, STIs, unintended pregnancy, unsafe abortion, infertility, and adverse psychosocial outcomes (Bingenheimer, Asante, & Ahiadeke, 2015; Oppong Asante & Oti-Boadi, 2013).

Risky sexual behaviour refers to practices that increase the likelihood of acquiring STIs or experiencing unintended reproductive outcomes, including early sexual debut, inconsistent condom use, multiple sexual partnerships, transactional sex, and sexual activity under the influence of alcohol or drugs (Bingenheimer et al., 2015). Although multiple factors influence these behaviours, evidence suggests that sexual and reproductive health knowledge, attitudes, and practices (KAP) are among the most important modifiable determinants. Knowledge enables informed decision-making, attitudes influence acceptance of preventive behaviours, while practices reflect actual health behaviours. However, the relationship between knowledge, attitudes, and practices is often moderated by peer influence, socioeconomic conditions, relationship dynamics, and access to youth-friendly services (Widman et al., 2018; Kågesten et al., 2021).

Among Nigerian undergraduates, relatively high awareness of HIV coexists with persistent engagement in risky sexual behaviours, indicating important gaps between knowledge and behavioural practice. Comprehensive

understanding of broader SRH issues, including emergency contraception, reproductive rights, fertility awareness, dual protection, and STI prevention, remains inadequate. At the same time, misconceptions, stigmas, and poor preventive practices continue to expose students to avoidable health risks.

Taraba State University, Jalingo, provides an important setting for investigating these issues because of its culturally and socioeconomically diverse student population. Despite growing policy attention to adolescent and youth reproductive health in Nigeria, limited empirical evidence exists on the combined influence of sexual and reproductive health knowledge, attitudes, and practices on risky sexual behaviour among undergraduates in Taraba State. Most Nigerian studies have focused primarily on HIV knowledge or contraceptive awareness, with few examining the interrelationships among knowledge, attitudes, practices, and risky sexual behaviour within a unified conceptual framework.

Understanding how sexual and reproductive health knowledge, attitudes, and practices influence risky sexual behaviour among undergraduates will provide evidence for designing comprehensive sexuality education programmes, strengthening youth-friendly reproductive health services, promoting positive behavioural change, and reducing the burden of sexually transmitted infections, unintended pregnancies, unsafe abortions, and other adverse reproductive health outcomes among university students in Nigeria.

2. Materials and Methods

2.1 Study Design

This study employed a descriptive cross-sectional survey design to assess sexual and reproductive health (SRH) knowledge, attitudes, and practices as determinants of risky sexual behaviour among undergraduate students of Taraba State University, Jalingo, Nigeria. The design was considered appropriate because it enabled the collection of quantitative data from a representative sample at a single point in time and facilitated the examination of relationships between SRH knowledge, attitudes, practices, and risky sexual behaviour without manipulation of study variables.

2.2 Study Setting

The study was conducted at Taraba State University, Jalingo, Taraba State, Nigeria. The university, located along the Jalingo–Sunkani Road in Jalingo Local Government Area, serves students from diverse sociocultural and geographical backgrounds across Nigeria. The institution comprises several faculties, including Arts, Science, Education, Agriculture, Engineering, Law, Social Sciences, and Health Sciences, with an estimated undergraduate population of 21,570 students during the 2024/2025 academic session. The university was selected because it represents the largest concentration of young adults in the state, a population considered vulnerable to risky sexual behaviours.

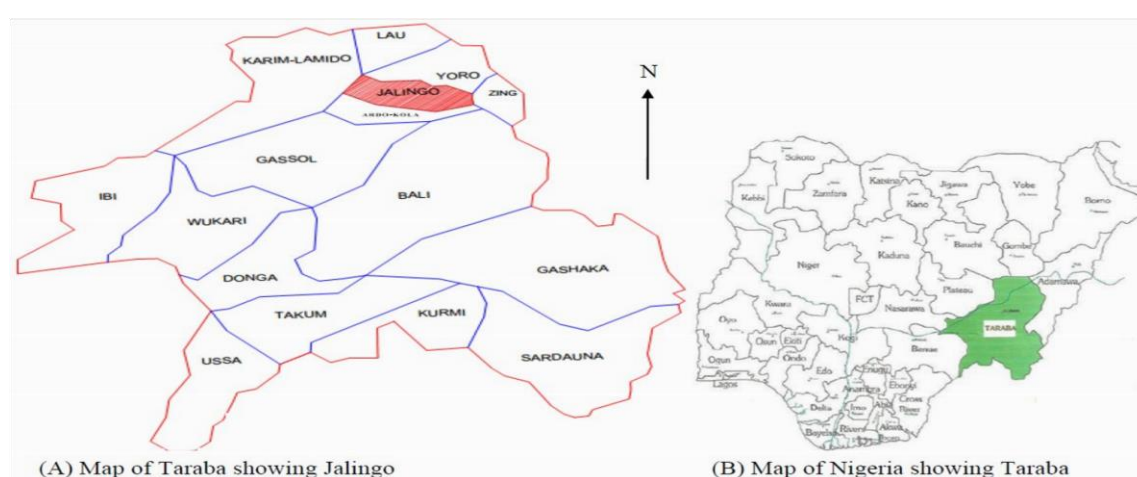


Figure 3.1: Map of Taraba State showing the study area (Jalingo)

2.3 Study Population

The study population comprised all registered undergraduate students of Taraba State University aged 16–30 years, irrespective of sex, faculty, department, or level of study. Both male and female students enrolled during the 2024/2025 academic session were eligible to participate.

2.4 Sample Size Determination

The minimum sample size was determined using Yamane's formula for finite populations:

$$n = \frac{N}{1 + N(e)^2}$$
$$n = \frac{21,570}{1 + 21,570(0.05)^2} \approx 390$$

where n represents the required sample size, N is the study population (21,570 students), and e is the level of precision (5%). The calculated minimum sample size was 390 respondents. To improve representativeness and account for possible incomplete responses, five additional questionnaires were included, resulting in a final sample size of 395 undergraduate students

2.5 Ethical Consideration

Ethical approval was obtained from the Adamawa State Ministry of Health and Human Services, with additional permission secured from the Local Government Health Authorities in Ardo-Kola, Bali, and Takum. Participation was voluntary, anonymity and confidentiality were assured, and no personal identifiers were collected.

2.6 Sampling Technique

A multistage sampling technique was adopted. Faculties were first stratified to ensure adequate representation across academic disciplines. Departments were subsequently selected using simple random sampling, followed by proportionate allocation of respondents across academic levels. Eligible students were then selected using systematic random sampling from class attendance lists or lecture seating arrangements.

2.7 Data Collection Instrument

Data were collected using a structured, self-administered questionnaire developed based on the Knowledge–Attitude–Practice (KAP) framework and relevant literature. The instrument consisted of seven sections covering informed consent, socio-demographic characteristics, SRH knowledge, attitudes, practices, risky sexual behaviours, and respondents' suggestions. Knowledge items were assessed using dichotomous and multiple-response questions, attitudes were measured on a five-point Likert scale, while practice and risky sexual behaviour items were assessed using Yes/No, frequency-based, and multiple-choice response formats.

2.8 Validity and Reliability

Face and content validity of the questionnaire were established through expert review by specialists in public health, reproductive health, and research methodology. Their recommendations were incorporated before the final administration. Reliability was assessed through a pilot study involving 30 undergraduate students from the Federal University Wukari, who were excluded from the main study. Internal consistency was evaluated using Cronbach's alpha coefficient, with reliability coefficients of **0.75 or higher** considered acceptable.

2.9 Data Collection Instrument

Data were collected over four weeks with the assistance of trained research assistants. Participants were informed about the study objectives, voluntary participation, confidentiality, and anonymity before completing the questionnaires. Questionnaires were administered during lecture periods and retrieved immediately after completion to maximise the response rate.

2.10 Data Analysis

Data were coded, entered, cleaned, and analysed using IBM SPSS Statistics version 25. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarise respondents' socio-demographic characteristics and levels of SRH knowledge, attitudes, practices, and risky sexual behaviours. Pearson Product Moment Correlation (PPMC) was used to examine the relationships between SRH knowledge, attitudes, practices, and risky sexual behaviour. An independent samples *t*-test was conducted to determine differences in risky sexual behaviour by gender. Statistical significance was set at $p < 0.05$.

2.11 Ethical Considerations

Ethical approval for the study was obtained from the Adamawa State Ministry of Health Research Ethics Committee prior to data collection. Written informed consent was obtained from all participants before enrolment. Participation was voluntary, and respondents were informed of their right to withdraw from the study at any stage without penalty. Confidentiality and anonymity were maintained by excluding personal identifiers from the questionnaire and storing completed questionnaires securely. Participants requiring psychosocial support following disclosure of sensitive sexual experiences were referred to appropriate university counselling and healthcare services.

3. Results

Table 3.1: Socio-Demographic Characteristics of Respondents (n=395)

Variable	Categories	Frequency	Per cent (%)
Age Group	15–19	82	20.8
	20–24	221	56.0
	25–29	73	18.5
	≥30	19	4.8
Gender	Male	204	51.6
	Female	191	48.4
Marital Status	Single	351	88.9
	Married	32	8.1
	Others	12	3.0
Level	100	105	26.6
	200	93	23.5
	300	83	21.0
	400	77	19.5
	500	37	9.4
Faculty	Science	82	20.8
	Social Sciences	68	17.2
	Arts Education	58	14.7
	Engineering	57	14.4
	Law	45	11.4
	Agriculture	44	11.1
Religion	Others	41	10.4
	Christianity	230	58.2
	Islam	146	37.0
Residence	Other	19	4.8
	On campus	168	42.5
	Off campus	227	57.5

Table 3.2: Knowledge of Sexual and Reproductive Health

Variable	Categories	Frequency	Per cent (%)
Heard of SRH	Yes	318	80.5
	No	77	19.5
Condom prevents STIs	True	282	71.4
	False/Not sure	113	28.6
Pregnancy at first sex	True	259	65.6
	False/Not sure	136	34.4
HIV transmission	True	301	76.2
	False/Not sure	94	23.8
Emergency contraception	Yes	243	61.5
	No/Not sure	152	38.5
Healthy-looking HIV	Yes	267	67.6
	No/Not sure	128	32.4
STIs asymptomatic	Yes	252	63.8
	No/Not sure	143	36.2
Infertility risk	True	276	69.9
	False/Not sure	119	30.1
Faithfulness reduces risk	True	288	72.9
	False/Not sure	107	27.1
SRH services available	Yes	265	67.1
	No/Not sure	130	32.9

Table 3.3: Overall Knowledge Score Distribution

Variable	Categories	Frequency	Per cent (%)
Knowledge Level	Poor (0–4)	52	13.2
	Moderate (5–8)	223	56.5
	Good (9–12)	120	30.4

Table 3.4: Summary of Attitudes Toward Sexual and Reproductive Health (n = 395)

Variable (Item)	SA	A	N	D	SD	Total	Mean	SD	Decision
Students need SRH knowledge	142	168	52	21	12	395	4.03	0.99	Agree
Condom use is responsible	136	171	47	25	16	395	3.98	1.05	Agree
SRH services should be used	128	176	51	23	17	395	3.95	1.05	Agree
Discussing sex is embarrassing	72	103	96	79	45	395	3.20	1.28	Disagree
Premarital sex acceptable	61	109	88	84	53	395	3.10	1.29	Disagree
HIV testing should be encouraged	150	163	44	21	17	395	4.03	1.04	Agree
Comfortable accessing SRH services	118	149	71	35	22	395	3.77	1.14	Agree
Can negotiate condom use	121	142	68	39	25	395	3.75	1.17	Agree
Multiple partners are acceptable	48	76	83	102	86	395	2.74	1.30	Disagree

Table 3.5: Attitude Level Distribution

Variable	Categories	Frequency	Per cent (%)
Attitude Level	Negative	52	13.2
	Neutral	121	30.6
	Positive	222	56.2

Table 3.6: Sexual and Reproductive Health Practices

Variable	Categories	Frequency	Per cent (%)
Ever had sex	Yes	268	67.8
	No	127	32.2
Number of partners (12 months)	None	112	28.4
	One	149	37.7
	Two	79	20.0
	Three+	55	13.9
Condom use	Always	138	34.9
	Sometimes	161	40.8
	Rarely	56	14.2
	Never	40	10.1
Unprotected sex	Yes	182	46.1
	No	213	53.9
Contraceptive use	Yes	219	55.4
	No	176	44.6
Visited health facility	Yes	201	50.9
	No	194	49.1
HIV test	Yes	226	57.2
	No	169	42.8

Table 3.7: Distribution of Practice Level

Variable	Categories	Frequency	Per cent (%)
Practice Level	Poor	78	19.7
	Moderate	221	56.0
	Good	96	24.3

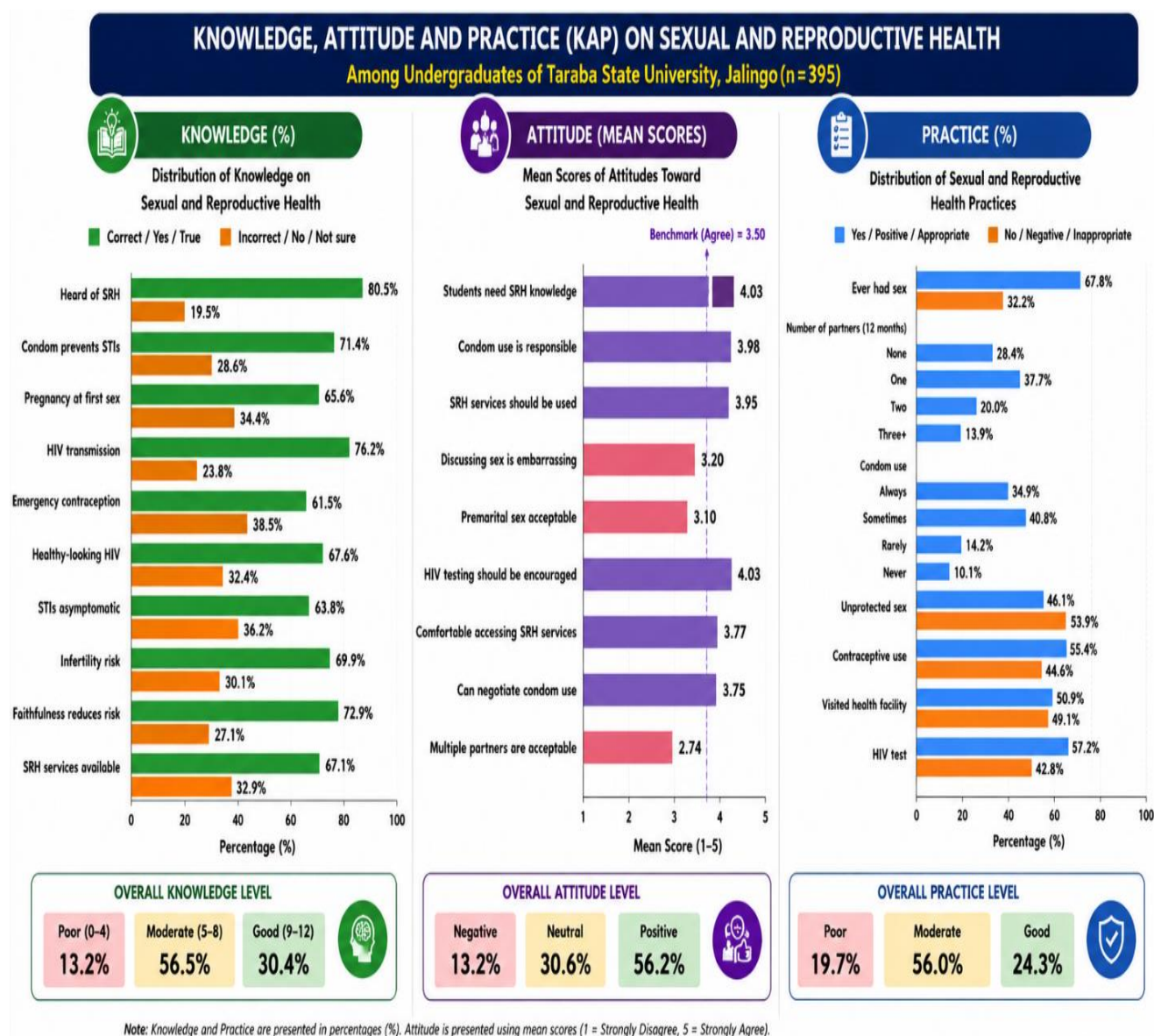


Figure 3.1: Summary of Knowledge, Attitude and Practice (KAP) on Sexual and Reproductive Health

Table 3.8: Risky Sexual Behaviours

Variable	Categories	Frequency	Per cent (%)
Multiple partners	Yes	134	33.9
	No	261	66.1
Sex without condom	Yes	182	46.1
	No	213	53.9
Sex under alcohol	Yes	121	30.6
	No	274	69.4
Casual sex	Yes	156	39.5
	No	239	60.5
Transactional sex	Yes	73	18.5
	No	322	81.5
Forced sex	Yes	48	12.2
	No	347	87.8
Inconsistent condom use	Yes	217	54.9
	No	178	45.1
Early sexual debut	Yes	138	34.9
	No	257	65.1
Peer pressure influence	Yes	167	42.3
	No	228	57.7
Alcohol influence	Yes	149	37.7
	No	246	62.3
Poor knowledge influence	Yes	131	33.2
	No	264	66.8
Social media influence	Yes	173	43.8
	No	222	56.2

Table 3.9: Risk Behaviour Distribution

Variable	Categories	Frequency	Per cent (%)
Risk Level	Low	122	30.9
	Moderate	173	43.8
	High	100	25.3

3.1 Test of Hypotheses

3.1.1 Hypothesis One

Table 3.10: Pearson Correlation between Knowledge and Risky Sexual Behaviour

Variable	N	Mean	SD	r-value	p-value
Knowledge Score	395	7.48	2.14	-0.761	0.000
Risky Behaviour	395	4.65	2.87		

3.1.2 Hypothesis Two

Table 3.11: Pearson Correlation between Attitude and Risky Sexual Behaviour

Variable	N	Mean	SD	r-value	p-value
Attitude Score	395	3.52	0.75	0.010	0.846
Risky Behaviour	395	4.65	2.87		

3.1.3 Hypothesis Three

Table 3.12: Pearson Correlation between Practice and Risky Sexual Behaviour

Variable	N	Mean	SD	r-value	p-value
Practice Score	395	6.53	2.17		
Risky Behaviour	395	4.65	2.87	0.057	0.261

4.3.4 Hypothesis Four

Table 3.13: Independent t-test Showing Gender Difference in Risky Sexual Behaviour

Gender	N	Mean	SD	t-value	p-value
Male	204	4.64	2.87	-0.024	0.981
Female	191	4.65	2.87		

4. Discussion

4.1 Sexual and Reproductive Health Knowledge

The findings of this study indicate that the majority of undergraduate students possessed satisfactory knowledge of sexual and reproductive health (SRH). Overall, 80.5% of respondents reported that they had previously heard of sexual and reproductive health, suggesting a relatively high level of awareness among the study population. This finding is encouraging because awareness is generally regarded as the first step toward informed sexual decision-making and the adoption of protective health behaviours. The high level of awareness observed in this study may reflect the increasing integration of SRH education into secondary and tertiary educational institutions, widespread dissemination of health information through digital media, and continuous HIV/AIDS awareness campaigns implemented by governmental and non-governmental organisations.

Knowledge of specific SRH concepts was also relatively high. More than seven out of every ten respondents correctly identified that condoms prevent sexually transmitted infections (71.4%), while 76.2% recognised unprotected sexual intercourse as a major route of HIV transmission. Likewise, 72.9% acknowledged that remaining faithful to one sexual partner reduces the likelihood of acquiring sexually transmitted infections. These findings demonstrate that respondents possessed a reasonable understanding of fundamental HIV prevention strategies.

The observed findings are consistent with recommendations of the World Health Organisation (WHO, 2023), which emphasises that comprehensive sexuality education significantly improves young people's understanding of HIV prevention, condom use, contraception, and sexually transmitted infections. Similarly, the Joint United Nations Programme on HIV/AIDS (UNAIDS, 2024) reports that sustained public health campaigns have substantially increased HIV-related knowledge among adolescents and young adults globally, particularly in countries implementing comprehensive HIV prevention programmes.

The relatively good knowledge observed in this study also agrees with findings reported among Nigerian university students. For instance, Ajayi and Somefun (2019) found that most undergraduate students demonstrated adequate knowledge of HIV transmission, contraceptive methods, and sexually transmitted infections. However, important misconceptions persisted regarding fertility and emergency contraception. Likewise, Baku et al. (2018) reported that university students in Ghana exhibited high awareness of reproductive health issues, particularly concerning HIV transmission and condom use, largely attributable to school-based education and media exposure.

Knowledge regarding reproductive health issues was similarly satisfactory. Approximately two-thirds of respondents correctly understood that pregnancy could occur during first sexual intercourse (65.6%), that apparently healthy individuals could be HIV-positive (67.6%), and that untreated sexually transmitted infections may result in infertility (69.9%). Furthermore, 63.8% recognised that sexually transmitted infections may occur without obvious symptoms, while 61.5% correctly identified the appropriate use of emergency contraception following unprotected sexual intercourse.

These findings are particularly important because misconceptions surrounding fertility, asymptomatic sexually transmitted infections, and emergency contraception continue to contribute to delayed health-seeking behaviour among young people. According to the World Health Organisation (2023), adolescents frequently underestimate their susceptibility to sexually transmitted infections because many infections remain asymptomatic. Consequently, delayed diagnosis increases the risk of long-term complications such as infertility, pelvic inflammatory disease, chronic pelvic pain, adverse pregnancy outcomes, and ongoing disease transmission.

Similarly, the United Nations Population Fund (UNFPA, 2024) emphasises that comprehensive knowledge of emergency contraception remains inadequate in many low- and middle-income countries despite increasing awareness of modern contraceptive methods. Limited understanding often contributes to unintended pregnancies among university students, highlighting the importance of sustained reproductive health education within tertiary institutions.

Another noteworthy finding was that 67.1% of respondents were aware of youth-friendly sexual and reproductive health services. This proportion suggests moderate awareness of available services but also indicates that approximately one-third of students remain unaware of facilities specifically designed to address adolescent and youth reproductive health needs. According to WHO (2024), awareness of youth-friendly services represents an essential determinant of healthcare utilisation because adolescents who know where confidential and non-judgmental services are available are significantly more likely to seek counselling, HIV testing, contraceptive services, and treatment for sexually transmitted infections.

The composite knowledge assessment further demonstrated that 56.5% of respondents possessed moderate knowledge, 30.4% demonstrated good knowledge, while only 13.2% exhibited poor knowledge. Collectively, these findings indicate that most respondents possessed at least moderate knowledge of sexual and reproductive health.

The predominance of moderate rather than good knowledge suggests that although students have acquired basic SRH information, important knowledge gaps remain. This observation agrees with findings reported by Mbachu et al. (2020) among Nigerian undergraduates, where respondents generally demonstrated moderate knowledge despite high awareness of HIV/AIDS. The authors argued that although awareness campaigns have increased exposure to SRH information, comprehensive understanding remains limited because sexuality education often emphasises disease prevention while paying less attention to reproductive rights, contraception, fertility awareness, and available healthcare services.

The findings may also be interpreted within the framework of the Health Belief Model, which proposes that individuals who possess greater knowledge regarding disease susceptibility, severity, benefits of preventive behaviour, and available interventions are more likely to adopt healthier behaviours. Adequate knowledge enhances perceived vulnerability to adverse reproductive health outcomes and strengthens motivation to engage in preventive practices such as condom use, HIV testing, and early treatment seeking. Consequently, the relatively satisfactory knowledge observed among respondents provides an important foundation for improving sexual health outcomes, although further educational interventions remain necessary to address existing misconceptions.

4.2 Sexual and Reproductive Health Attitudes

The present study found that respondents generally demonstrated favourable attitudes toward sexual and reproductive health. Overall, 56.2% exhibited positive attitudes, 30.6% expressed neutral attitudes, while only 13.2% demonstrated negative attitudes. These findings suggest that most undergraduate students possess beliefs and perceptions that support healthy sexual and reproductive health practices, although a sizeable minority remain undecided on several important issues.

Respondents expressed the strongest agreement regarding the need for adequate sexual and reproductive health education (mean = 4.03 ± 0.99) and the importance of promoting HIV testing (mean = 4.03 ± 1.04). These findings indicate widespread recognition of education and early diagnosis as essential strategies for improving reproductive health outcomes. The observed results are consistent with recommendations from UNAIDS (2024),

which identifies HIV testing as one of the most effective public health interventions for reducing HIV transmission through early diagnosis, treatment initiation, and behavioural modification.

Similarly, the World Health Organisation (2023) advocates comprehensive sexuality education as an essential component of adolescent health promotion, noting that young people who receive accurate SRH education demonstrate improved decision-making, healthier relationships, increased contraceptive use, and delayed initiation of risky sexual behaviours.

Respondents also demonstrated positive attitudes toward condom use, with a mean score of 3.98 ± 1.05 , indicating that condom use was generally perceived as responsible sexual behaviour. Likewise, respondents supported utilisation of reproductive health services whenever necessary (mean = 3.95 ± 1.05), expressed comfort in accessing SRH services (mean = 3.77 ± 1.14), and reported confidence in negotiating condom use with sexual partners (mean = 3.75 ± 1.17).

These findings correspond with evidence presented by Bankole et al. (2020), who reported that positive attitudes toward condoms significantly improve their acceptability among Nigerian youths. However, the authors also noted that positive perceptions do not necessarily translate into consistent condom utilisation because interpersonal relationships, partner resistance, alcohol consumption, and perceived trust frequently influence actual behaviour.

The favourable attitudes toward HIV testing observed in this study also align with findings reported by Biney et al. (2021) among university students in sub-Saharan Africa, where positive attitudes toward voluntary counselling and testing were associated with increasing public awareness campaigns and greater availability of youth-friendly testing services.

Interestingly, respondents generally disagreed with behaviours traditionally associated with increased sexual risk. Mean scores for acceptance of premarital sex (3.10 ± 1.29) and having multiple sexual partners (2.74 ± 1.30) were below the study decision criterion, indicating that respondents generally viewed these behaviours unfavourably. These findings suggest that although many respondents were sexually active, they continued to recognise multiple sexual partnerships as undesirable.

This observation agrees with findings reported by Yaya et al. (2018), who observed that many African university students maintained relatively conservative attitudes toward multiple sexual partnerships despite increasing levels of sexual activity. The authors argued that cultural norms, religious beliefs, family expectations, and awareness of HIV continue to influence attitudes even where behaviour may differ.

Another important finding was that respondents generally did not consider discussions relating to sex embarrassing (mean = 3.20 ± 1.28). This finding represents a positive shift because open communication regarding sexuality facilitates access to reproductive health information, counselling, contraception, and disease prevention. The WHO (2023) emphasises that open communication between young people, healthcare providers, educators, and parents substantially improves reproductive health literacy and increases utilisation of preventive health services.

Despite the predominance of positive attitudes, approximately one-third of respondents demonstrated neutral attitudes. Neutral attitudes may indicate uncertainty regarding sensitive reproductive health issues, inadequate confidence in applying acquired knowledge, or persistent sociocultural influences limiting open discussions regarding sexuality. Similar observations have been reported in several African settings where young adults simultaneously endorse reproductive health education while remaining influenced by cultural expectations surrounding sexuality (Ajayi & Somefun, 2019).

4.3 Sexual and Reproductive Health Practices

The findings of this study indicate that although respondents generally demonstrated moderate knowledge and favourable attitudes toward sexual and reproductive health (SRH), these were not consistently reflected in their

sexual practices. Overall, 56.0% of respondents exhibited moderate SRH practices, while 24.3% demonstrated good practices and 19.7% had poor practices. This distribution suggests that although many undergraduate students engage in some protective sexual health behaviours, a substantial proportion continue to practice behaviours that may increase their vulnerability to adverse sexual and reproductive health outcomes.

Approximately two-thirds of the respondents (67.8%) reported having experienced sexual intercourse. This finding indicates that sexual activity is common among undergraduate students and underscores the need for accessible, youth-friendly sexual and reproductive health information and services within tertiary institutions. Similar findings have been reported in Nigeria and other sub-Saharan African countries, where studies consistently show that sexual debut commonly occurs during late adolescence and early adulthood, particularly among university students (Ajayi & Somefun, 2019; Bingenheimer et al., 2021). The transition to university often coincides with increased independence from parental supervision, greater peer interaction, and exposure to new social environments that may influence sexual behaviour.

Among sexually active respondents, 37.7% reported having one sexual partner during the previous 12 months, whereas 20.0% had two partners and 13.9% reported three or more sexual partners. Conversely, 28.4% indicated that they had no sexual partner during the same period. While the finding that the largest proportion maintained a single sexual partner may reflect relatively safer sexual behaviour, the proportion reporting multiple partners remains a public health concern because multiple concurrent partnerships increase opportunities for the transmission of HIV and other sexually transmitted infections (STIs). According to the World Health Organisation (WHO, 2023), multiple sexual partnerships remain an important behavioural driver of STI transmission, particularly among adolescents and young adults.

The prevalence of multiple sexual partnerships observed in this study is comparable with findings reported among university students in several African countries. For example, Biney et al. (2021) found that a considerable proportion of tertiary students in sub-Saharan Africa reported having more than one sexual partner, a behaviour associated with alcohol use, peer influence, and low perception of personal risk. Similarly, Ajayi and Somefun (2019) observed that although many Nigerian undergraduates understood the risks associated with multiple sexual partnerships, social relationships, economic factors, and perceived trust often influenced their sexual decisions.

Condom utilisation among respondents was inconsistent. Although 34.9% reported always using condoms during sexual intercourse, the largest proportion (40.8%) indicated that they used condoms only sometimes. Furthermore, 14.2% reported rarely using condoms, while 10.1% acknowledged never using condoms. Nearly half of the respondents (46.1%) also admitted engaging in unprotected sexual intercourse. These findings suggest that despite relatively good knowledge regarding condom effectiveness, consistent condom use remains suboptimal among many undergraduate students.

The discrepancy between knowledge and behaviour has been widely documented in the literature. The WHO (2023) emphasises that awareness of HIV prevention does not necessarily translate into consistent protective practices because sexual behaviour is influenced by interpersonal relationships, partner negotiation, alcohol consumption, perceived trust, and prevailing social norms. Likewise, UNAIDS (2024) notes that inconsistent condom use remains one of the leading contributors to new HIV infections among young people globally despite improvements in HIV-related knowledge.

The findings are also consistent with those of Mbachu et al. (2020), who reported that many Nigerian undergraduates demonstrated adequate knowledge of condom use but failed to use condoms consistently during sexual intercourse. Similar observations were reported by Oppong Asante et al. (2018) among university students in Ghana, where inconsistent condom use was associated with reduced risk perception, trust in sexual partners, and limited condom negotiation skills.

Regarding contraceptive behaviour, slightly more than half of the respondents (55.4%) reported currently using a contraceptive method, while 44.6% indicated that they were not using any contraception. Although the proportion using contraception is encouraging, the finding that almost half of the respondents did not use any contraceptive method suggests continuing vulnerability to unintended pregnancy and sexually transmitted

infections. The United Nations Population Fund (UNFPA, 2024) reports that inadequate contraceptive utilisation among young adults remains a major contributor to unintended pregnancies, unsafe abortions, and adverse maternal health outcomes, particularly in low- and middle-income countries.

The moderate level of contraceptive utilisation observed in this study is comparable with findings from the Nigeria Demographic and Health Survey (National Population Commission [NPC] & ICF, 2019), which reported that contraceptive uptake among young Nigerians remains lower than expected despite increasing awareness of modern family planning methods. Persistent barriers include misconceptions regarding contraceptive safety, fear of side effects, cultural beliefs, limited access to youth-friendly services, and stigma associated with seeking reproductive healthcare.

Utilisation of reproductive health services among respondents was similarly moderate, with 50.9% reporting previous attendance at a health facility for SRH-related services. This suggests that approximately half of the respondents had never accessed professional reproductive healthcare despite the relatively high level of awareness observed. This finding may indicate the continued existence of barriers such as confidentiality concerns, fear of discrimination, perceived stigma, inconvenient service hours, financial constraints, or limited awareness of available youth-friendly services.

According to the WHO (2024), adolescents frequently avoid reproductive health facilities because they fear judgment from healthcare providers or lack confidence that their privacy will be protected. Consequently, international guidelines recommend expanding confidential, adolescent-friendly healthcare services within educational institutions to improve service utilisation.

Similarly, 57.2% of respondents reported previous HIV testing, while 42.8% had never been tested. Although the proportion of students who had undergone HIV testing is encouraging, the substantial proportion that had never been tested remains concerning because early diagnosis is central to HIV prevention and treatment. UNAIDS (2024) emphasises that increasing HIV testing among adolescents and young adults remains critical to achieving global HIV control targets because individuals who know their HIV status are more likely to access treatment and adopt safer sexual behaviours.

4.4 Risky Sexual Behaviour

The present study further examined the prevalence of risky sexual behaviours among undergraduate students. Overall, 43.8% of respondents were classified as having moderate-risk sexual behaviour, while 30.9% demonstrated low-risk behaviour and 25.3% exhibited high-risk sexual behaviour. These findings indicate that moderate-risk sexual behaviour predominated within the study population, although one-quarter of respondents remained highly vulnerable to adverse sexual and reproductive health outcomes.

One of the most notable findings was that 33.9% of respondents reported having multiple sexual partners. This behaviour remains an important public health concern because concurrent sexual partnerships substantially increase opportunities for HIV and STI transmission within sexual networks. The World Health Organisation (2023) identifies multiple sexual partnerships as one of the major behavioural determinants of HIV transmission among young adults, particularly when accompanied by inconsistent condom use.

Nearly half of the respondents (46.1%) reported engaging in sexual intercourse without condom use. This finding is consistent with the earlier observation that only one-third of respondents reported always using condoms during sexual intercourse. Unprotected sexual intercourse remains one of the strongest predictors of HIV infection, other sexually transmitted infections, and unintended pregnancy. According to UNAIDS (2024), inconsistent condom use continues to contribute significantly to HIV incidence among adolescents and young adults despite increasing awareness regarding HIV prevention.

Approximately 30.6% of respondents indicated that they had engaged in sexual intercourse under the influence of alcohol or psychoactive substances. Alcohol and substance use have consistently been associated with impaired judgment, reduced risk perception, and diminished capacity to negotiate safer sexual practices. The

World Health Organisation (2024) recognises harmful alcohol consumption as an important determinant of risky sexual behaviour because intoxication frequently reduces self-control and increases impulsive decision-making.

Similarly, 39.5% of respondents reported involvement in casual sexual relationships. Casual sexual relationships may expose individuals to partners whose HIV status and sexual histories are unknown, thereby increasing the probability of sexually transmitted infections when condoms are not consistently used. Previous studies conducted among university students in sub-Saharan Africa have similarly reported that casual sexual relationships are influenced by peer norms, increased independence, and changing social expectations associated with university life (Bingenheimer et al., 2021).

Transactional sex was reported by 18.5% of respondents. Although this proportion is lower than those reporting other risky behaviours, it remains clinically and socially significant because transactional sexual relationships are frequently associated with unequal power dynamics, inconsistent condom use, and increased vulnerability to sexual exploitation. The UNFPA (2024) identifies transactional sex among adolescents and young adults as an important contributor to HIV vulnerability, particularly where financial hardship and gender inequalities exist.

Another concerning finding was that 12.2% of respondents reported previous experiences of forced sex. Sexual violence has profound physical, psychological, and reproductive health consequences, including increased risk of sexually transmitted infections, unintended pregnancy, depression, post-traumatic stress disorder, and poor health-seeking behaviour. The WHO (2021) emphasises that eliminating sexual violence remains an essential component of improving adolescent sexual and reproductive health outcomes and recommends strengthening institutional reporting mechanisms, survivor support services, and preventive education.

More than half of the respondents (54.9%) reported inconsistent condom use, while approximately one-third (34.9%) initiated sexual intercourse before the age of 18 years. Early sexual debut has been consistently associated with increased lifetime sexual risk because individuals initiating sexual activity during adolescence often experience longer periods of sexual exposure, lower contraceptive utilisation, and increased numbers of lifetime sexual partners (WHO, 2023). Similar observations have been reported among Nigerian adolescents, where early sexual initiation has been linked with inadequate parental communication, peer influence, and limited access to comprehensive sexuality education (NPC & ICF, 2019).

The study further identified several contextual factors influencing risky sexual behaviour. Peer pressure influenced sexual decision-making among 42.3% of respondents, while 37.7% reported that alcohol affected their sexual decisions. Additionally, 33.2% identified poor sexual and reproductive health knowledge as a contributing factor, whereas 43.8% acknowledged the influence of social media on their sexual behaviour.

The prominent influence of peer pressure observed in this study is consistent with Bronfenbrenner's Ecological Systems Theory, which proposes that immediate social environments, including peers and educational settings, strongly influence individual behaviour. University students often adopt behaviours that are perceived as socially acceptable within their peer groups, even when such behaviours contradict their personal knowledge or attitudes.

The increasing influence of social media observed among respondents also reflects contemporary trends. Digital platforms provide unprecedented access to health information but may simultaneously expose young people to sexually explicit content, misinformation, and social norms that encourage risky sexual experimentation. Recent evidence suggests that while social media can enhance sexual health literacy, its influence depends largely on the accuracy of available information and the digital literacy of users (WHO, 2023).

4.5 Relationship Between Sexual and Reproductive Health Knowledge and Risky Sexual Behaviour

One of the major objectives of this study was to determine whether sexual and reproductive health (SRH) knowledge was associated with risky sexual behaviour among undergraduate students. The findings demonstrated a statistically significant and strong inverse relationship between SRH knowledge and risky sexual behaviour ($r = -0.761$, $p < .001$). This indicates that respondents with higher levels of sexual and reproductive health knowledge were considerably less likely to engage in risky sexual behaviours. The strength of the correlation further suggests that knowledge was the most important factor associated with risky sexual behaviour among the variables examined in this study.

This finding supports the proposition that adequate knowledge equips young people with the information required to recognise risky situations, understand the consequences of unsafe sexual practices, and make informed decisions regarding their sexual health. Individuals who understand HIV transmission, contraception, sexually transmitted infections (STIs), and reproductive health services are generally more capable of adopting preventive behaviours such as delaying sexual debut, limiting sexual partners, using condoms consistently, and seeking timely reproductive healthcare.

The finding is consistent with the Health Belief Model (HBM), which proposes that individuals are more likely to adopt preventive health behaviours when they perceive themselves as susceptible to disease, understand the seriousness of potential health consequences, recognise the benefits of preventive action, and believe that they possess the ability to implement those actions. Within the context of this study, respondents with higher SRH knowledge are likely to have better perceptions of their vulnerability to HIV, STIs, and unintended pregnancy, thereby reducing engagement in behaviours that increase these risks.

The present finding agrees with recommendations of the World Health Organisation (WHO, 2023), which identifies comprehensive sexuality education as a cornerstone of adolescent health promotion. According to WHO, evidence from multiple countries demonstrates that accurate and age-appropriate sexuality education improves knowledge, delays initiation of sexual intercourse, increases condom and contraceptive use, reduces the number of sexual partners, and promotes healthier relationships. Similarly, the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2023) concluded that comprehensive sexuality education consistently improves knowledge while reducing behaviours associated with HIV infection, unintended pregnancy, and sexually transmitted infections.

The observed relationship is also supported by UNAIDS (2024), which reports that young people with adequate HIV knowledge are significantly more likely to utilise HIV testing services, negotiate safer sex, and consistently adopt preventive behaviours than those with inadequate knowledge. Consequently, strengthening reproductive health literacy remains central to achieving global HIV prevention targets.

The findings further corroborate empirical studies conducted in Nigeria and other parts of sub-Saharan Africa. Ajayi and Somefun (2019) reported that higher HIV and reproductive health knowledge among Nigerian adolescents was associated with safer sexual practices and reduced engagement in risky sexual behaviour. Similarly, Bingenheimer et al. (2021) found that comprehensive sexual health knowledge was associated with delayed sexual debut, reduced multiple sexual partnerships, and greater contraceptive utilisation among young adults in several African countries.

The findings are also consistent with those of Mbachu et al. (2020), who reported that increasing levels of reproductive health knowledge significantly improved protective sexual behaviours among Nigerian university students. According to the authors, exposure to structured reproductive health education increased awareness of HIV prevention, contraception, and STI symptoms, thereby encouraging healthier behavioural choices.

Although the present study demonstrated a stronger correlation than many previous studies, several contextual factors may explain this observation. First, the respondents were university students who generally possess relatively high educational attainment, enabling them to understand and utilise health information effectively. Second, universities increasingly provide HIV awareness campaigns, reproductive health seminars, and access

to digital health information that may reinforce classroom learning. Third, respondents with higher knowledge may simultaneously possess greater health literacy, enabling them to critically evaluate misinformation frequently encountered through social media and peer networks.

Nevertheless, it is important to recognise that knowledge alone may not eliminate risky sexual behaviour. The descriptive findings of this study revealed that some respondents with moderate or good knowledge still reported inconsistent condom use, multiple sexual partnerships, and unprotected sexual intercourse. This observation suggests that although knowledge substantially reduces risky behaviour, behavioural decisions remain influenced by additional factors such as peer pressure, alcohol use, economic circumstances, relationship dynamics, cultural expectations, and access to youth-friendly health services. Consequently, effective interventions should combine knowledge enhancement with behavioural skill development, counselling, and supportive social environments.

4.6 Relationship Between Sexual and Reproductive Health Knowledge and Risky Sexual Behaviour

One of the major objectives of this study was to determine whether sexual and reproductive health (SRH) knowledge was associated with risky sexual behaviour among undergraduate students. The findings demonstrated a statistically significant and strong inverse relationship between SRH knowledge and risky sexual behaviour ($r = -0.761$, $p < .001$). This indicates that respondents with higher levels of sexual and reproductive health knowledge were considerably less likely to engage in risky sexual behaviours. The strength of the correlation further suggests that knowledge was the most important factor associated with risky sexual behaviour among the variables examined in this study.

This finding supports the proposition that adequate knowledge equips young people with the information required to recognise risky situations, understand the consequences of unsafe sexual practices, and make informed decisions regarding their sexual health. Individuals who understand HIV transmission, contraception, sexually transmitted infections (STIs), and reproductive health services are generally more capable of adopting preventive behaviours such as delaying sexual debut, limiting sexual partners, using condoms consistently, and seeking timely reproductive healthcare.

The finding is consistent with the Health Belief Model (HBM), which proposes that individuals are more likely to adopt preventive health behaviours when they perceive themselves as susceptible to disease, understand the seriousness of potential health consequences, recognise the benefits of preventive action, and believe that they possess the ability to implement those actions. Within the context of this study, respondents with higher SRH knowledge are likely to have better perceptions of their vulnerability to HIV, STIs, and unintended pregnancy, thereby reducing engagement in behaviours that increase these risks.

The present finding agrees with recommendations of the World Health Organisation (WHO, 2023), which identifies comprehensive sexuality education as a cornerstone of adolescent health promotion. According to WHO, evidence from multiple countries demonstrates that accurate and age-appropriate sexuality education improves knowledge, delays initiation of sexual intercourse, increases condom and contraceptive use, reduces the number of sexual partners, and promotes healthier relationships. Similarly, the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2023) concluded that comprehensive sexuality education consistently improves knowledge while reducing behaviours associated with HIV infection, unintended pregnancy, and sexually transmitted infections.

The observed relationship is also supported by UNAIDS (2024), which reports that young people with adequate HIV knowledge are significantly more likely to utilise HIV testing services, negotiate safer sex, and consistently adopt preventive behaviours than those with inadequate knowledge. Consequently, strengthening reproductive health literacy remains central to achieving global HIV prevention targets.

The findings further corroborate empirical studies conducted in Nigeria and other parts of sub-Saharan Africa. Ajayi and Somefun (2019) reported that higher HIV and reproductive health knowledge among Nigerian adolescents was associated with safer sexual practices and reduced engagement in risky sexual behaviour. Similarly, Bingenheimer et al. (2021) found that comprehensive sexual health knowledge was associated with

delayed sexual debut, reduced multiple sexual partnerships, and greater contraceptive utilisation among young adults in several African countries.

The findings are also consistent with those of Mbachu et al. (2020), who reported that increasing levels of reproductive health knowledge significantly improved protective sexual behaviours among Nigerian university students. According to the authors, exposure to structured reproductive health education increased awareness of HIV prevention, contraception, and STI symptoms, thereby encouraging healthier behavioural choices.

Although the present study demonstrated a stronger correlation than many previous studies, several contextual factors may explain this observation. First, the respondents were university students who generally possess relatively high educational attainment, enabling them to understand and utilise health information effectively. Second, universities increasingly provide HIV awareness campaigns, reproductive health seminars, and access to digital health information that may reinforce classroom learning. Third, respondents with higher knowledge may simultaneously possess greater health literacy, enabling them to critically evaluate misinformation frequently encountered through social media and peer networks.

Nevertheless, it is important to recognise that knowledge alone may not eliminate risky sexual behaviour. The descriptive findings of this study revealed that some respondents with moderate or good knowledge still reported inconsistent condom use, multiple sexual partnerships, and unprotected sexual intercourse. This observation suggests that although knowledge substantially reduces risky behaviour, behavioural decisions remain influenced by additional factors such as peer pressure, alcohol use, economic circumstances, relationship dynamics, cultural expectations, and access to youth-friendly health services. Consequently, effective interventions should combine knowledge enhancement with behavioural skill development, counselling, and supportive social environments.

4.7 Relationship Between Sexual and Reproductive Health Attitudes and Risky Sexual Behaviour

This study further examined whether respondents' attitudes toward sexual and reproductive health were associated with risky sexual behaviour. The findings revealed no statistically significant relationship between SRH attitudes and risky sexual behaviour ($r = 0.010$, $p = .846$). Although respondents generally demonstrated favourable attitudes toward sexual and reproductive health, these attitudes did not significantly influence their engagement in risky sexual behaviours.

This finding suggests that possessing positive attitudes toward condom use, HIV testing, reproductive health services, and sexuality education does not necessarily translate into safer sexual practices. Although respondents largely agreed that condom use is responsible behaviour and supported HIV testing and reproductive health education, many still reported inconsistent condom use, unprotected sexual intercourse, multiple sexual partnerships, and other risky behaviours.

The apparent disconnect between attitudes and behaviour has been documented in behavioural research. The Theory of Planned Behaviour, developed by Ajzen (1991), proposes that behaviour is influenced not only by attitudes but also by subjective norms and perceived behavioural control. Accordingly, individuals may possess favourable attitudes toward healthy behaviour but fail to practice those behaviours because of external constraints such as partner influence, peer expectations, financial dependence, alcohol consumption, or reduced confidence in negotiating safer sex.

The findings are further supported by the World Health Organisation (2023), which notes that although positive attitudes toward reproductive health are important, behavioural outcomes depend upon multiple interacting factors, including social norms, access to health services, relationship power dynamics, and enabling environments.

The absence of a statistically significant association may also reflect the complex nature of sexual decision-making among university students. Sexual behaviour often occurs within interpersonal relationships where emotions, trust, social expectations, and immediate circumstances may exert greater influence than personal

attitudes. Consequently, respondents who express favourable attitudes toward reproductive health may nevertheless engage in risky sexual behaviour under conditions involving emotional attachment, partner pressure, alcohol use, or perceived social acceptance.

The present finding is comparable with several studies reporting weak or non-significant associations between sexual attitudes and actual behaviour among university students. For example, Bingenheimer et al. (2021) observed that favourable reproductive health attitudes alone were insufficient predictors of consistent condom use after controlling for peer influence and relationship characteristics. Similarly, Oppong Asante et al. (2018) reported that although Ghanaian university students generally endorsed positive attitudes toward condom use, these attitudes did not consistently predict actual condom utilisation because partner negotiation and perceived trust strongly influenced behaviour.

However, the present findings differ from studies that have reported significant associations between sexual attitudes and protective sexual practices. Some researchers have found that positive attitudes toward condoms and reproductive healthcare improve contraceptive use and reduce risky sexual behaviour among adolescents. Variations in study populations, measurement instruments, cultural contexts, sample sizes, and definitions of risky sexual behaviour may explain differences between studies.

The findings therefore suggest that interventions aimed solely at improving attitudes may produce limited behavioural change unless accompanied by practical skill-building programmes. Universities should complement positive attitude formation with interventions that strengthen condom negotiation skills, improve communication within intimate relationships, reduce stigma surrounding reproductive healthcare, and address environmental factors influencing sexual decision-making.

4.8 Relationship Between Sexual and Reproductive Health Practices and Risky Sexual Behaviour

The study also investigated whether respondents' sexual and reproductive health practices were associated with risky sexual behaviour. Pearson's correlation analysis demonstrated no statistically significant relationship between SRH practices and risky sexual behaviour ($r = 0.057$, $p = .261$). Although a weak positive relationship was observed, the association was negligible and failed to reach statistical significance.

At first glance, this finding appears unexpected because protective reproductive health practices would ordinarily be expected to reduce risky sexual behaviour. However, closer examination of the descriptive findings provides a possible explanation. Respondents reported moderate reproductive health practices overall, yet many simultaneously acknowledged engaging in behaviours such as inconsistent condom use, unprotected sexual intercourse, multiple sexual partnerships, and casual sexual relationships.

This apparent contradiction may reflect the multidimensional nature of the practice variable. The composite SRH practice score included behaviours such as contraceptive use, HIV testing, and utilisation of reproductive health services. These positive practices may coexist with risky behaviours within the same individual. For example, a respondent may regularly undergo HIV testing yet continue to engage in inconsistent condom use or maintain multiple sexual partners. Similarly, an individual may access reproductive health services after engaging in risky sexual behaviour rather than before it.

The World Health Organisation (2023) recognises that healthcare utilisation does not necessarily indicate low behavioural risk because individuals frequently seek services following exposure to perceived sexual risk or after experiencing symptoms of sexually transmitted infections. Consequently, preventive and reactive behaviours may occur simultaneously.

The findings also align with behavioural models suggesting that health behaviours are influenced by dynamic interactions among knowledge, social context, motivation, perceived risk, and environmental opportunities. According to the Social Ecological Model, individual behaviour reflects interactions between personal characteristics, interpersonal relationships, institutional environments, community influences, and public policy. Therefore, moderate reproductive health practices alone may not sufficiently overcome the influence of peer pressure, alcohol consumption, financial constraints, or cultural expectations.

Comparable findings have been reported in studies conducted among university students in sub-Saharan Africa, where utilisation of reproductive health services and HIV testing did not necessarily correspond with lower engagement in risky sexual practices because students often sought healthcare after participating in behaviours perceived as risky (WHO, 2023).

The absence of a statistically significant relationship in this study therefore suggests that reproductive health interventions should emphasise the consistency and quality of preventive behaviours rather than isolated health practices. Universities should encourage comprehensive behavioural change programmes that integrate consistent condom use, partner reduction, regular HIV testing, appropriate contraceptive utilisation, and ongoing reproductive health counselling rather than promoting individual preventive practices in isolation.

4.9 Influence of Gender on Risky Sexual Behaviour

The final objective examined whether risky sexual behaviour differed significantly between male and female undergraduate students. The independent samples t-test revealed no statistically significant gender difference in risky sexual behaviour ($t = -0.024$, $p = .981$). Male respondents recorded a mean risky sexual behaviour score of 4.64 ± 2.87 , while female respondents had a virtually identical mean score of 4.65 ± 2.87 . These findings indicate that risky sexual behaviour occurs at comparable levels among both sexes.

The absence of gender differences suggests that contemporary university environments expose both male and female students to similar social influences, opportunities, and behavioural risks. Increased access to social media, changing gender norms, greater autonomy associated with university life, and widespread exposure to similar peer networks may contribute to comparable patterns of sexual behaviour among male and female students.

This finding differs from earlier literature that frequently reported higher levels of risky sexual behaviour among male students than females. Historically, males have been more likely to report multiple sexual partnerships, earlier sexual debut, and inconsistent condom use, whereas females have generally reported fewer sexual partners but greater vulnerability to coercion and unequal power relationships. However, more recent evidence indicates that these gender differences are becoming less pronounced in many university settings as social norms evolve.

The World Health Organisation (2023) acknowledges that risky sexual behaviour among young people is increasingly influenced by contextual rather than biological factors, including peer influence, alcohol consumption, digital media exposure, and access to sexual health services. Consequently, prevention strategies should target all young people rather than focusing exclusively on one gender.

The findings also suggest that gender-sensitive interventions remain important, not because one sex necessarily engages in more risky behaviour than the other, but because males and females may experience different vulnerabilities and consequences. For example, females remain disproportionately affected by unintended pregnancy and sexual violence, whereas males may be less likely to seek reproductive healthcare. Therefore, university sexual and reproductive health programmes should provide inclusive interventions that address the specific reproductive health needs of both male and female students while promoting equitable access to information, counselling, HIV testing, contraception, and youth-friendly health services.

5. Conclusion

This study concluded that sexual and reproductive health (SRH) knowledge is a significant protective factor against risky sexual behaviour among undergraduates of Taraba State University. Students with higher SRH knowledge were significantly less likely to engage in risky sexual behaviours, underscoring the importance of comprehensive reproductive health education. Although respondents generally exhibited positive attitudes and moderate SRH practices, risky sexual behaviours remained prevalent, indicating that knowledge should be complemented with behavioural interventions and accessible youth-friendly services to achieve meaningful behaviour change. Furthermore, no significant gender difference was found in risky sexual behaviour, suggesting that SRH interventions should be inclusive and target all students irrespective of gender.

Based on the findings of this study, the following recommendations are made:

1. Taraba State University should strengthen comprehensive sexual and reproductive health education programmes to improve students' knowledge and promote safer sexual behaviours.
2. The university health centre should expand access to youth-friendly services, including HIV testing, STI screening, contraceptive counselling, and other reproductive health services.
3. Behavioural change interventions, such as life-skills training and condom negotiation education, should be implemented to help students translate knowledge into healthy sexual practices.
4. Peer education initiatives and evidence-based social media campaigns should be enhanced to counter misinformation and reduce the influence of peer pressure on students' sexual decisions.
5. The university should strengthen counselling, psychosocial support, and sexual violence response services while implementing programmes that address alcohol-related risky sexual behaviour and other factors contributing to unsafe sexual practices.

Disclaimer (Artificial Intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

Competing Interests

Authors have declared that they have no known competing financial interests or non-financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Ajayi, A. I., & Somefun, O. D. (2019). Sexual and reproductive health knowledge, sexual behaviour and contraceptive use among adolescents and young adults in Nigeria. *BMC Public Health*, 19, Article 123. <https://doi.org/10.1186/s12889-019-6460-7>
- Ajzen, I. (1991). The theory of planned behaviour. *Organisational Behaviour and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Bankole, A., Keogh, S., Akinyemi, O., Dzekedzeke, K., Awolude, O., & Adewole, I. (2020). Differences in unintended pregnancy, contraceptive use and abortion by HIV status among women in Nigeria. *International Perspectives on Sexual and Reproductive Health*, 46, 1–12. <https://doi.org/10.1363/46e0120>
- Biney, A. A. E., Kushitor, M. K., & Dake, F. A. A. (2021). HIV/AIDS knowledge, attitudes and sexual behaviours among young people in sub-Saharan Africa: Evidence from population-based surveys. *BMC Public Health*, 21, Article 1235. <https://doi.org/10.1186/s12889-021-11289-7>
- Bingenheimer, J. B., Asante, E., & Ahiadeke, C. (2015). Peer Influences on Sexual Activity among Adolescents in Ghana. *Studies in Family Planning*, 46(1), 1–19. <https://doi.org/10.1111/j.1728-4465.2015.00012.x>
- Chou, D., Daelmans, B., Jolivet, R. R., Kinney, M., & Say, L. (2022). Ending preventable maternal and newborn mortality and stillbirths. *BMJ*, 379, e067937.
- Dellar, R. C., Dlamini, S., & Karim, Q. A. (2015). Adolescent girls and young women: Key populations for HIV epidemic control. *Journal of the International AIDS Society*, 18(2 Suppl. 1), 19408.
- Joint United Nations Programme on HIV/AIDS. (2024). The urgency of now: AIDS at a crossroads—Global AIDS update 2024. UNAIDS. <https://www.unaids.org/en/resources/documents/2024/global-aids-update-2024>
- Guan M. (2021). Sexual and reproductive health knowledge, sexual attitudes, and sexual behaviour of university students: Findings of a Beijing-Based Survey in 2010–2011. *Archives of public health = Archives belges de sante publique*, 79(1), 215. <https://doi.org/10.1186/s13690-021-00739-5>
- Mbachu, C. O., Agu, I. C., Eze, I., Agu, C., Eze, I. C., & Ezumah, N. (2020). Exploring the context of sexual and reproductive health knowledge and practices among adolescents and young adults in Nigeria. *BMC Public Health*, 20, Article 116. <https://doi.org/10.1186/s12889-020-8210-5>
- National Population Commission (NPC) [Nigeria], & ICF. (2019). *Nigeria Demographic and Health Survey 2018*. Abuja, Nigeria, and Rockville, MD: NPC and ICF.
- National Population Commission (NPC) [Nigeria], & ICF. (2019). *Nigeria Demographic and Health Survey 2018*. Abuja, Nigeria, and Rockville, MD: NPC and ICF.
- Oppong Asante, K., Osafo, J., & Doku, P. N. (2018). The role of condom use self-efficacy on condom use among university students in Ghana. *Journal of Community Health*, 43, 457–464. <https://doi.org/10.1007/s10900-017-0446-5>

- Oppong Asante, K., Osafo, J., & Doku, P. N. (2018). The role of sexual attitudes and beliefs in condom use among university students in Ghana. *Journal of Health Psychology*, 23(8), 1055–1065. <https://doi.org/10.1177/1359105316642834>
- Patton, G. C., Sawyer, S. M., Santelli, J. S., et al. (2016). Our future: A Lancet commission on adolescent health and well-being. *The Lancet*, 387(10036), 2423–2478.
- Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the Health Belief Model. *Health Education Quarterly*, 15(2), 175–183. <https://doi.org/10.1177/109019818801500203>
- Rowley, J., Vander Hoorn, S., Korenromp, E., et al. (2019). Chlamydia, gonorrhoea, trichomoniasis and syphilis: Global prevalence and incidence estimates, 2016. *Bulletin of the World Health Organisation*, 97(8), 548–562.
- Sawyer, S. M., Azzopardi, P. S., Wickremarathne, D., & Patton, G. C. (2018). The age of adolescence. *The Lancet Child & Adolescent Health*, 2(3), 223–228.
- Starrs, A. M., Ezech, A. C., Barker, G., et al. (2018). Accelerate progress—Sexual and reproductive health and rights for all: Report of the Guttmacher–Lancet Commission. *The Lancet*, 391(10140), 2642–2692.
- United Nations Educational, Scientific and Cultural Organisation. (2023). International technical guidance on sexuality education: An evidence-informed approach (2nd rev. ed.). UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000374161>
- United Nations Educational, Scientific and Cultural Organisation. (2018). International technical guidance on sexuality education: An evidence-informed approach (Revised edition). UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000260770>
- United Nations Population Fund. (2024). State of world population 2024: Interwoven lives, threads of hope—Ending inequalities in sexual and reproductive health and rights. UNFPA. <https://www.unfpa.org/swp2024>
- Widman, L., Choukas-Bradley, S., Noar, S. M., Nesi, J., & Garrett, K. (2018). Parent–adolescent sexual communication and adolescent safer sex behaviour: A meta-analysis. *JAMA Paediatrics*, 170(1), 52–61.
- World Health Organisation. (2021). Violence against women prevalence estimates, 2018: Global, regional and national prevalence estimates for intimate partner violence and non-partner sexual violence. World Health Organisation. <https://www.who.int/publications/i/item/9789240022256>
- World Health Organisation. (2023). Adolescent sexual and reproductive health. World Health Organisation. <https://www.who.int/health-topics/adolescent-health>
- World Health Organisation. (2024). Global health sector strategies on HIV, viral hepatitis and sexually transmitted infections for the period 2022–2030: Progress report. World Health Organisation. <https://www.who.int/publications>
- World Health Organisation. (2024). Sexually transmitted infections (STIs): Key facts. World Health Organisation. [https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-\(stis\)](https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis))
- Yaya, S., Bishwajit, G., & Shah, V. (2018). Prevalence of HIV testing and associated factors among young people in sub-Saharan Africa: Evidence from demographic and health surveys. *PLOS ONE*, 13(10), e0204900. <https://doi.org/10.1371/journal.pone.0204900>